RF/RMRS-97-106

Connex 51
Investigative Derived Material
Sampling and Analysis Plan

December 1997

Revision: 0

FIELD SAMPLING PLAN
TO SUPPORT THE FINAL DISPOSITION OF CONNEX 51 RESIDUAL INVESTIGATIVE DERIVED MATERIAL SOIL SAMPLES
NOVEMBER 1997

This Field Sampling Plan has been reviewed and approved by:

Ken Gillespie, Health and Safety	Date
Scott Newsom, Radiological Engineering	12/18/97 Date
Greg DiGregorio, Quality Assurance	12/18/97 Date
Annette Primrose Acting ER Projects Manager	12-17-97 Date

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1.0 PROJECT DESCRIPTION

This Sampling and Analysis Plan presents the process for obtaining defensible waste characterization data to support the proper disposition of residual soil samples from past Environmental Restoration Projects. These samples were previously collected from Operable Units (OU,s) 2, 4, 5, 6, 7, 8, 9, 10, 12 and 13 during the investigative and characterization phases for specific IHSSs within each OU.

1.1 Description of the Site

The samples are stored in Connex #51 located in the Field Operations Yard and segregated by the OU and IHSS from which they originated. Sample containers include plastic and glass sample jars, plastic baggies, and metal Shelby Tubes. There are approximately 1,400 of these various containers. Assuming an average sample size of 250 ml, approximately 92 gallons of material requires disposition (approximately two, 55-gallon drums).

Within the inventory there are some samples that are total unknowns or spill related. These samples will be identified and excluded from this sampling evolution. Additionally, several samples may contain above background radionuclide levels; (e.g., from Ryan's Pit) these samples will also be segregated. Analytical data from the closeout report for Ryan's Pit (IHSS 109) will be used to characterize and disposition the samples upon segregation.

2.0 SAMPLING AND DATA QUALITY OBJECTIVES

Results from this sampling activity will support an evaluation/characterization of the residual soil samples to determine if the samples will be disposed on-site as solid, nonradioactive waste. The procedure used to make this determination will be FO.29, Disposition of Soil and Sediment Investigative Material. The evaluation will be performed after FO.29 is revised to incorporate Rocky Flats Cleanup Agreement (RFCA) Action Levels. Sampling activities described in this plan are sufficient to meet the requirements of FO.29, 4-U50-REP-1006 (Characterization of Bulk Materials), and the Rocky Flats Environmental Technology Site Radcon Manual such that a 95% confidence level can be attained to satisfy No Rad Added Program Release Requirements.

3.0 SAMPLING COLLECTION AND ANALYSIS

After separating the samples that are not inclusive to this event, the remaining soil samples will be placed into double-lined, 55-gallon, grey drum. Additional drums will be

used, as neccessary, and filled in the same manner. While these samples are being opened and transferred, a qualified Health and Safety Specialist will be monitoring for Volatile Organic Compounds and radioactivity using appropriate monitoring instruments.

3.1 SAMPLING PROCEDURE

The sampling procedure (Appendix 1) for this evolution is described in FO.20, Sampling Environmental Media Containers. A controlled copy of this document will be present while sampling is being performed. These efforts will ensure that the final samples will be representative of the entire volume of soil. Five samples will be taken from each drum in different locations. The five samples will be collected for analysis for radionuclides. For metals, semivolatiles and PCBs (Appendix 1), the five samples will be composited in accordance with FO.20. The locations have been pre-determined by using random numbers generated from Excel random number tables (Appendix 2). Addtionally, a volatile sample will be taken from the center of the drum. All samples will be handled in accordance with FO. 13, Containerizing, Preserving, Handling and Shipping of Soil and Water Samples. All samples will be shipped to an off-site laboratory for analysis.

The stainless steel equipment used will be decontaminated in accordance with FO.03, General Equipment Decontamination, Section 5.3.1, Cleaning Steel or Metal Sampling Equipment Without Steam in the Field, prior to and after use. All sampling equipment will be decontaminated after each sample is taken.

4.0 SAMPLE DESIGNATION

The K-H Analytical Projects Office will assign a unique Report Identification Number (RIN) for this project. The RIN will be the first part of the sample number. Following the RIN, the project will assign a unique event and bottle number to the samples. These numbers will be recorded on the container sampling form specified in Appendix 1 of FO.20, Sampling of Environmental Media Containers

5.0 WASTE MANAGEMENT

5.1 Waste Management

If hazardous or radiological constituents are detected in the samples, the Project Manager, requester or responsible manager for the activity will be accountable for waste management, prior to transferring waste containers to RMRS, in accordance with RCRA regulations and/or DOE Orders and in accordance to the RMRS Waste Acceptance

Criteria. The sample results will be evaluated per Field Operations Procedure 4-H46-ENV-OPS-FO.29 (Disposition of Soil and Sediment Investigation-Derived Material). The results of the evaluation will be used to assess the potential risk associated with the soil.

5.2 Disposition of empty sample containers and PPE

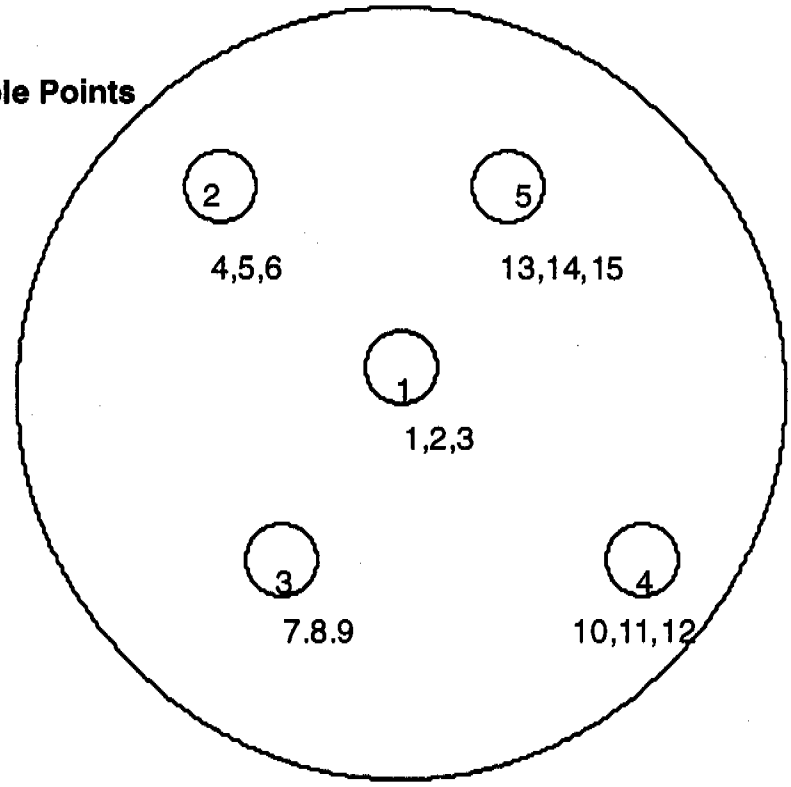
The empty sample containers will have their labels blackened out. The containers will be radiologically monitored as required in HSP 18.10 (Unrestricted Release of Property and Equipment). The containers will be double-bagged and placed on pallets. After the Property Release Evaluation has been completed, the containers will be transferred to the sanitary landfill. If the sample containers fail the evaluation they will be packaged as Low Level Waste in accordance with 4-D99-WO-1100 (Solid Radioactive Waste Packaging) and transferred to the appropriate storage area. The Personal Protective Equipment used during sampling will be radiologically surveyed, bagged and transferred to the sanitary landfill.

APPENDIX 1

Analytical Method	Analytes	# of Samples	Container	Preserva-tive	Holding Time
Isotopic Analysis	Uranium, Thorium, Americium and Plutonium	5	250 ML wide mouth jar	None	6 months
SW-846 Method 8240B/8260A	*Volaties	**3	125-ML Wide mouth jar with teflon lined lid	Cool, 4 C	14 Days
SW-846 Method 8240B/8260A	*Volatiles	1 Trip Blank per Cooler	2X4 ML VOA Vials-Teflon Lined Septalids	Cool, 4 C HCL to pH<2	14 Days
SW-846 Method 6010A, 7470	*Total Metals Including Hg	**3	1 L wide mouth jar with teflon lined lid	Cool, 4 C	180 Days from Extraction
SW-846 Method 8270B	*Semivolatiles	**3	500-ML Wide mouth jar with teflon lined lid	Cool, 4 C	14 Days to extraction, 40 days from extraction to analysis
SW-846 Method 8080	*PCBs	**3	250-ML Glass wide mouth jar	Cool, 4 C	7 Days to extraction, 40 days from extraction to analysis
*1 Sample will be taken per drum plus 1 duplicate per job	**Based on havng more than 1 drum.				

APPENDIX 2

55 Gallon Drum Sample Points



RANDOM NUMBERS FROM EXCEL 1-15
1
8
1
11
13
9
8